Management of Gastrointestinal (GI) Bleeding

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SCOPE

This guideline applies to the evaluation and management of patients presenting with upper and lower gastrointestinal bleeding from an Acute Care Surgery perspective. It is intended to assist clinicians in risk stratification, resuscitation, endoscopic/angiographic management, and surgical decision-making.

PURPOSE

To provide an evidence-based, practical reference for hospital practitioners managing GI bleeds, including mortality and morbidity data, pharmacologic dosing, and timing of interventions, in line with current ACG, BSG, and TQIP recommendations.

INITIAL WORKUP AND MANAGEMENT

Initial Assessment

- Assess hemodynamic stability: HR, BP, MAP, orthostatic vitals.
- Establish two large-bore IVs, monitor labs (CBC, CMP, coagulation profile), type and cross.
- Initial resuscitation: crystalloid for hypotension, transfuse to maintain hemoglobin ≥7 g/dL for most patients; goal ≥8 g/dL in active cardiac disease (Laine et al., 2021).
- Assess risk using Glasgow-Blatchford Score (GBS):
    - Low Risk (GBS ≤1): may be observed or discharged with outpatient follow-up.
    - Not Low Risk (GBS ≥2): admit and monitor (Stanley et al., 2019).

Pre-Endoscopic Therapy

- High-dose PPI therapy:
    - Pantoprazole 80 mg IV bolus, then 8 mg/hr continuous infusion or 40 mg IV BID (Laine et al., 2021; Stanley et al., 2019).
- Prokinetic therapy: Erythromycin 250 mg IV 30–60 minutes prior to endoscopy to enhance visualization.
- Transfuse PRBCs as needed to achieve target Hb, monitor coagulopathy.

Timing of Endoscopy

- Within 24 hours for upper GI bleeds in hemodynamically stable patients.
- Urgent (<12 hours) for high-risk lesions (active bleeding, hemodynamic instability, or shock).
- Mortality in high-risk upper GI bleeds: 5–10% overall; higher (up to 20%) in elderly or comorbid patients (Laine et al., 2021).

ENDOSCOPIC MANAGEMENT

Lesion	Endoscopic Therapy	PPI Therapy	Notes
Active bleeding or visible vessel	Hemostatic clipping, injection, or thermal therapy	High-dose PPI 3 days IV	Endoscopic therapy reduces rebleeding from 20% to 10% (Laine 2021)
Adherent clot	No direct endoscopic therapy; high-dose PPI 3 days	Monitor	Consider repeat endoscopy if bleeding recurs (Stanley 2019)
Flat pigmented spot	None	Standard PPI	Low risk of rebleeding (~5%)
Clean base	None	Standard PPI	Minimal risk, early discharge if stable

Recurrent bleeding after endoscopic therapy

- Repeat endoscopy preferred over surgery or arterial embolization.
- Arterial embolization: preferred if repeat endoscopy fails; associated with fewer complications than surgery (Kim 2018).

Surgical Considerations

- Required in ~10% of upper GI bleeds failing endoscopic or angiographic management (Kim 2018).

Upper GI Bleeding Surgical Approaches

- Duodenal ulcers: longitudinal duodenotomy; anterior four-quadrant suture, posterior with U-stitch for arterial control.
- Mallory-Weiss tears: high gastrotomy with oversewing.
- Stress gastritis: vagotomy/pyloroplasty or near-total gastrectomy.
- Esophageal ulcers: esophagotomy and oversewing; Nissen fundoplication as indicated.
- Malignancy: distal or total gastrectomy, esophagectomy, or pancreatoduodenectomy depending on tumor location.
- Variceal bleeding: correct coagulopathy; consider TIPS, Sengstaken-Blakemore tube, or surgical shunt if refractory.

Mortality for surgical intervention: 15–25% depending on comorbidities and hemodynamic status (Laine 2021).

Lower GI Bleeding Management

Diagnosis

- Colonoscopy is first-line for both diagnosis and therapy.
- CT angiography and Tc-99m scans for intermittent or obscure bleeding.

Endoscopic/Angiographic Therapy

- Diverticular disease: segmental resection if failed endoscopy; ostomy in unstable patients.
- Angiodysplasia: endoscopic therapy first; segmental resection if recurrent.
- Neoplasia: segmental resection after failed endoscopy/embolization.
- Colitis: surgery only as last resort.
- Mesenteric ischemia: resection of ischemic segment; morbidity/mortality 25–50% depending on extent (Strate et al., 2016).

Obscure GI Bleeding

- Exploratory laparotomy with full inspection; fiber-optic transillumination may detect occult vascular lesions.
- Consider split ileostomy for endoscopic access.

MEDICATION SUMMARY

Medication	Dose	Frequency	Indication
Pantoprazole IV	80 mg bolus	8 mg/hr infusion x72h	High-risk UGIB pre/post endoscopy
Pantoprazole IV	40 mg	BID	Standard-risk post-endoscopy
Erythromycin	250 mg IV	Single dose 30–60 min pre-endoscopy	Improve gastric visualization
PRBC transfusion	Titrate to Hb >7 g/dL	As needed	Hemodynamic stabilization
Coagulopathy correction	Per protocol	As needed	Patients on anticoagulants

OUTCOMES AND KEY EVIDENCE

- Upper GI bleeding: Mortality 5–10%; rebleeding 10–20% (Laine 2021).
- Lower GI bleeding: Mortality 3–5%; higher in mesenteric ischemia (Strate 2016).
- Endoscopic therapy reduces rebleeding and surgery rates by ~50% (Stanley 2019).
- Arterial embolization: 70–90% effective for refractory bleeding; fewer complications than surgery (Kim 2018).
- Surgery remains ~10% of cases; mortality 15–25% depending on hemodynamic stability and comorbidities.

Version Control Record			
Version	**Date**	**Author/Reviewer**	**Description of Changes**
1	1/15/26	Paul Wisniewski, D.O. Andrew McCague, D.O	Initial review and update to reflect latest evidence/practice

REFERENCES

1. Laine L et al. *ACG Clinical Guideline: Upper Gastrointestinal and Ulcer Bleeding.* Am J Gastroenterology. 2021;116:899–917.
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3. Strate L, Gralnek I. *Management of Patients with Acute Lower Gastrointestinal Bleeding.* Am J Gastroenterology. 2016;111:459–474.
4. Kim J, Lee I. *Role of Surgery in Gastrointestinal Bleeding.* Gastrointestinal Intervention. 2018;7:136–141.

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